

Evaluating the Impact of Wordwall on Improving Students' Vocabulary in Recount Text at SMPN 01 Gandusari

Devita Sari Nur Safitri¹, Dian Fadhilawati², Nita Sutanti³, Hesty Puspita Sari⁴
^{1,2,3,4}Universitas Islam Balitar

Jl. Imam Bonjol No. 16, Jl. Majapahit No.2- 4, Sananwetan, Kec. Sananwetan, Kota Blitar, Jawa Timur 66137
devitasari2900@gmail.com¹, dianfadhilawati@yahoo.com², nitasutanti4789@gmail.com³, hestysari1403@gmail.com⁴

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Abstract

This study investigates the effectiveness of Wordwall in enhancing vocabulary related to recount texts among eighth-grade students at SMPN 01 Gandusari. Using a pre-experimental one-group pre-test and post-test design with 28 students, the research involved pre-tests, treatment, and post-tests to collect data. The validity and reliability of the test were confirmed before administering it to the respondents. Analysis using a paired sample t-test in SPSS 24.0 revealed a significant improvement in students' vocabulary scores, increasing from a pre-test average of 70.14 to a post-test average of 83.29. The results indicate that Wordwall significantly enhances students' vocabulary achievement in recount texts. The study suggests that teachers incorporate Wordwall into English lessons to make learning more engaging and compelling, potentially extending its use to other topics. Additionally, students are encouraged to review recount text materials regularly. At the same time, future research could explore student and teacher responses to Wordwall or compare its effectiveness with other language learning tools like Duolingo or Busuu.

Keywords: *Vocabulary; Wordwall; RecountText; Pre-Experimental*

1. Introduction

English plays a crucial role in international trade, diplomacy, science, and cross-cultural communication, making it a required subject for Indonesian students from elementary to university levels (Andayani, 2022; Pratama, 2023). Learning English involves mastering four essential skills—reading, writing, speaking, and listening—along with essential sub-skills such as vocabulary, grammar, and pronunciation (Fadhilawati, 2016; Wulandari & Fadhilawati, 2019). Vocabulary is essential, enabling students to engage in all language skills effectively. However, students often face significant challenges in mastering vocabulary, which can hinder their overall language development (Hartatiningsih, 2022). Despite the importance of vocabulary, students often struggle due to spelling, pronunciation, and word choice, which can lead to difficulties in expressing ideas, and a lack of motivation to learn English (Hartatiningsih, 2022; Wilsana, 2015). These challenges are compounded by internal factors, like study habits and attitudes and external factors like reliance on teachers and learning resources (Wilsana, 2015). For instance, students may struggle to retain new vocabulary introduced in class, leading to frustration and disengagement from the learning process.

To gain a deeper understanding of these challenges, a preliminary study was conducted at SMPN 01 Gandusari, focusing on eighth-grade students. The study revealed that students particularly struggled with vocabulary in recount texts, facing difficulties defining words, identifying synonyms and antonyms, and using vocabulary in context. Despite the teacher's efforts to encourage vocabulary retention through note-taking and memorization, students faced significant obstacles (Wilsana, 2015). Given these challenges, the study aims to explore the effectiveness of using the Wordwall application as a tool to enhance vocabulary comprehension among eighth-grade students, particularly in recount texts. Previous research has shown positive results when using Wordwall in similar contexts, suggesting that it could be valuable in addressing the vocabulary challenges students face at SMPN 01 Gandusari (Ritonga, 2019; Timumun, 2020). This research aims to determine the impact of Wordwall on improving students' vocabulary mastery in recount texts, with the hope of enhancing their overall language achievement.

Several experts have offered various definitions of vocabulary. (Appiah-Baidoo, 2018) Characterizes vocabulary as the collection of words within an individual's knowledge. Similarly, Neuman and Drawyer, as referenced in (Bintz, 2011) define it as the words necessary for effective communication, both in speaking (expressive vocabulary) and listening (receptive vocabulary). According to (Schmitt and Schmitt, 2020), vocabulary includes all the words an

individual knows or uses in a specific context within a particular language. Vocabulary is fundamental to acquiring language skills, including receptive abilities such as listening and reading and productive skills like speaking and writing. This underscores its essential role in mastering language. Vocabulary can be categorized into oral and print forms and productive and receptive types (Hiebert & Kamil, 2005). Productive vocabulary refers to words used in speaking or writing, whereas receptive vocabulary encompasses words that an individual can understand when listening or reading but may not actively use. Both types are crucial for communication, with productive vocabulary enabling expression and receptive vocabulary supporting comprehension.

Vocabulary plays a pivotal role in English language acquisition, interconnecting speaking, listening, reading, and writing. Students with a strong vocabulary can articulate their ideas and comprehend others' expressions more effectively. (Thornbury, 2002) emphasizes that focusing on expanding vocabulary rather than solely on grammar leads to significant improvement in language proficiency. With a sufficient vocabulary, effective communication becomes more accessible. In assessing vocabulary achievement (Weinert & Artelt, 2019) define it as proficiency in key concepts, principles, and knowledge. Steinmayr (2014) adds that achievement reflects the extent to which specific goals have been attained, particularly in educational settings. Vocabulary achievement, therefore, refers to the amount of vocabulary students acquire following instructional intervention.

When teaching vocabulary, several factors must be considered. (Chitravelu et al., 2005) highlight the importance of recognizing potential challenges, choosing appropriate techniques for conveying meaning, and accounting for learner variables such as memory, motivation, and language aptitude. Teachers must also carefully select content, organize time effectively, and choose suitable techniques and activities. According to (Sriati et al., 2023), vocabulary teaching can be categorized into different levels: common words, academic vocabulary, specialized jargon, and obscure terms. Effective vocabulary learning strategies include using mnemonics, applying new vocabulary in context, thinking in the target language, acquiring vocabulary from real-life contexts, and utilizing digital tools like Wordwall (Dian & Bahrul, 2020). Vocabulary assessment can involve evaluating vocabulary knowledge and the ability to learn new words (Laufer & Goldstein, 2004; Qian & Schedl, 2004). Standard assessment methods include multiple-choice questions (MCQs), matching formats, sentence completion, jumble words, and True/False questions (Coombe, 2011). The researcher employed multiple-choice questions, jumble words, matching text, fill-in-the-blank exercises, and true/false questions for vocabulary assessment.

Recount texts, essential in junior high school, allow students to reflect on and narrate past experiences in a structured way, enhancing their writing skills and comprehension (Alisa, 2021). Recount texts follow a specific structure—orientation, sequence of events, and reorientation—and can be categorized into personal recounts, factual recounts, and biographical recounts (Derewianka & Jones, 2010). These texts feature specific participants, descriptive words, simple past tense, and sequencing words to organize the narrative effectively.

Wordwall is a multimedia tool that enhances student engagement and vocabulary retention in the classroom (Bergeron & Bradbury-Wolff, 2003; Dennis, 2013). Initially developed in 2006 as a tool for interactive classrooms, Wordwall has evolved into a widely accessible platform for creating and sharing educational activities (Wordwall, 2023). The advantages of using Wordwall include supporting vocabulary development, increasing exposure to essential words, and promoting active student engagement across various content areas (Weiser, 2003). To create activities on Wordwall, teachers can follow a straightforward process: visiting the Wordwall website, signing up, selecting a template, entering content, customizing the activity, and sharing it with students (Putri, 2020). Students can access and complete these activities through provided links or codes, making Wordwall a flexible and effective tool for vocabulary learning.

2. Method

This study utilizes a quantitative research approach, focusing on numerical data analysis through statistical methods (Hardani et al., 2020). Quantitative research is pivotal for testing hypotheses and determining significant relationships through statistical tests. According to Sugiyono (2019), this approach adheres to scientific principles, objective, quantifiable, logical, and systematic—and is known for discovering and advancing new scientific and technological knowledge. The chosen design is a pre-experimental approach, as Sugiyono (2019) outlined. This design is termed "pre-experimental" because it lacks rigorous experimental controls, with external variables potentially influencing the dependent variable.

The study will be conducted at SMPN 01 Gandusari, Blitar Regency, chosen for its need for innovative learning media and limited use of technology in English instruction despite having a computer lab. The focus will be on eighth-grade students during the second semester of the 2023/2024 academic year. Preliminary studies occurred in December 2023, with pre-tests, treatments, and post-tests scheduled for May 2024. The research targets 306 eighth-grade students from SMP Negeri 1 Gandusari Blitar (Sugiyono, 2019). A purposive sampling method will be used, selecting class 8G based on recommendations due to practical constraints (Arikunto, 2020). The study identifies two variables: the Independent Variable (X)—the effectiveness of the Wordwall Application for vocabulary learning in recount text—and the Dependent Variable (Y)—students' achievement in vocabulary for recount text (Sugiyono, 2019).

Research instruments include a vocabulary test of 50 items developed from the Merdeka Curriculum. These instruments were tested for validity and reliability. A try-out was conducted on May 8, 2024, with 30 students to ensure

the test's reliability and validity. Validity was assessed using the Pearson Product Moment Formula, while reliability was evaluated with Cronbach's Alpha, yielding a result of 0.938, indicating good reliability (Arikunto, 2020).

Data analysis will employ both descriptive and inferential statistics using SPSS 24.0. Critical analyses include calculating means, standard deviations, and standard errors. The normality of data will be tested, followed by a paired sample t-test to determine the significance of differences between pre-test and post-test scores. Decision criteria are based on comparing t-count with t-table values at a 95% significance level.

The procedures include obtaining permits, conducting preliminary research, and testing instruments. The study will proceed with pre-tests, treatments, and post-tests, following a detailed schedule: On May 21, 2024, the pre-test will be administered, and an introduction to Wordwall will be provided. From May 22 to May 28, 2024, various Wordwall features will be used for treatments. The post-test will be conducted on May 28, 2024. Data will be processed using SPSS 24.0 to compare pre-test and post-test results and assess the impact of Wordwall on vocabulary learning achievement.

3. Findings and Discussion

The researcher conducted a pre-test, treatment, and post-test as part of the study. The pre-test took place on May 21, 2024, in class VIII G at SMPN 1 Gandusari Blitar, with 28 students participating. The test consisted of 25 vocabulary items related to recount texts, and students had 40 minutes to complete it. After the test, the researcher input the scores into Microsoft Word. The treatment phase was carried out over four meetings on May 21, 22, 27, and 28, 2024. During these sessions, the researcher used the Wordwall application to review the vocabulary of recount texts, employing features such as flashcards, flip tiles, spin the wheel, open the box, and word search. Finally, the post-test was administered on May 28, 2024, using the same questions as the pre-test. The researcher then analyzed the results using a normality test, homogeneity test, and paired sample t-test.

The Validity Test

The validity of the Try-Out Test instrument needs to be examined. According to Ananda & Fadhli, (2018), an instrument is considered valid if it accurately measures the intended criteria. Since the test involves objective items scored dichotomously (0 and 1), the Pearson Product-Moment Correlation Coefficient, specifically the Biserial Correlation Coefficient, is used to assess item accuracy. The researcher used SPSS 24.0 to analyze students' responses to the 50-item vocabulary test given to class VIII J of SMPN 01 Gandusari. If the t-statistic exceeds the critical value at a 5% significance level, the item is valid; otherwise, it is invalid. The results are presented in Table 1.

Table 1. The Validity Test

Question Number	r count	R table	Result	Question Number	r count	r table	Result
1	0,377	0,349	valid	26	0,354	0,349	valid
2	0,451	0,349	valid	27	0,766	0,349	valid
3	0,073	0,349	invalid	28	0,542	0,349	valid
4	0,431	0,349	valid	29	0,469	0,349	valid
5	0,604	0,349	valid	30	0,915	0,349	valid
6	0,211	0,349	invalid	31	0,625	0,349	valid
7	0,258	0,349	invalid	32	0,318	0,349	invalid
8	0,064	0,349	invalid	33	0,661	0,349	valid
9	0,198	0,349	invalid	34	0,728	0,349	valid
10	0,586	0,349	valid	35	0,300	0,349	valid
11	0,502	0,349	valid	36	0,766	0,349	valid
12	0,601	0,349	valid	37	0,679	0,349	valid
13	0,679	0,349	valid	38	0,452	0,349	valid
14	0,593	0,349	valid	39	0,464	0,349	valid
15	0,764	0,349	valid	40	0,492	0,349	valid
16	0,795	0,349	valid	41	0,798	0,349	valid
17	0,558	0,349	valid	42	0,766	0,349	valid
18	0,317	0,349	invalid	43	0,593	0,349	valid
19	0,549	0,349	valid	44	0,807	0,349	valid
20	0,673	0,349	valid	45	0,653	0,349	valid
21	0,841	0,349	valid	46	0,593	0,349	valid
22	0,550	0,349	valid	47	0,404	0,349	valid
23	0,008	0,349	invalid	48	0,429	0,349	valid
24	0,452	0,349	valid	49	0,336	0,349	invalid
25	0,761	0,349	valid	50	0,744	0,349	valid

Based on Table 2, the decision-making criteria for the validity test is that if the calculated R-value exceeds the r-table value (0.349), the item is deemed valid. The results show that the r-values for 10 items (questions numbered 3, 6, 7, 8, 9, 18, 23, 32, 35, and 49) are below the critical r-value. As a result, these items do not meet the validity criteria and are excluded from the pre-test and post-test instruments.

The Reliability Test

The researcher assessed the test's reliability, which, according to Arikunto (2020), refers to an instrument's ability to consistently collect data. To address the limitations of the parallel form and retest methods, Ananda and Fadhli's (2018) split-half method was used. The internal consistency of the instrument was analyzed using Cronbach's Alpha with SPSS version 24.0. The test results involved 50 items. As per Arikunto (2019), reliability levels are measured as follows: 0.8–1.0 indicates good reliability, 0.6–0.799 is acceptable, and below 0.6 reflects poor reliability. The test results are presented below.

Table 2. The Reliability Test

Case Processing Summary			
Cases	Valid	N	%
	Excluded ^a	30	100.0
	Total	0	.0
		30	100.0
Cronbach's Alpha		N of Items	
.938		50	

The reliability calculations using Cronbach's Alpha in SPSS 24.0 yielded a value of 0.938. Since all indicators in the writing assessment rubric exceed the 0.6 threshold, this confirms the instrument's reliability.

The results of the Pre-Test and Post-Test

After implementing Wordwall, the goal is to assess students' vocabulary achievement in recount texts. The table below shows a comparison between the pre-test and post-test results gathered by the researcher.

Table 3. The result of Pre-test and Post-test

No.	Name of Respondent	Score Pre-test	Score Post-test	No.	Name of Respondent	Score Pre-test	Score Post-test
1	AFH	60	68	15	KYP	44	80
2	ASP	76	80	16	MP	68	80
3	APS	56	72	17	MFWDSD	76	84
4	BAT	40	72	18	NLA	68	76
5	CPA	84	96	19	NCRD	48	76
6	CMS	68	80	20	NS	68	76
7	DRP	72	84	21	OF	72	80
8	DS	88	92	22	RA	80	92
9	DRPN	80	84	23	RY	80	88
10	FTA	56	76	24	RP	68	80
11	FRA	68	80	25	RAFPP	76	92
12	GAN	68	88	26	VAL	96	100
13	KP	72	84	27	YA	92	100
14	KWF	44	72	28	ZEM	96	100

After utilizing Wordwall, the students' understanding of vocabulary in recount texts showed improvement. Their average score increased from 70.14 to 83.29. The researcher concludes that Wordwall is an effective tool for enhancing students' vocabulary comprehension in recount texts.

The Normality Test

The instrument's normality was tested using the One-Sample Kolmogorov-Smirnov test through the SPSS 24.0 software. This test was conducted to determine whether the dependent and independent variables in the regression model follow a normal distribution. According to the One-Sample Kolmogorov-Smirnov method, the data is considered normally distributed if the coefficient value is greater than 0.05; if the coefficient value is less than 0.05, the data is not normally distributed. The results of these calculations are provided below.

Table 4. The Normality Test
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		28
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	4.72176537
Most Extreme Differences	Absolute	.128
	Positive	.112
	Negative	-.128
Test Statistic		.128
Asymp. Sig. (2-tailed)		.200 ^{c,d}

The results of this calculation are provided in the Sig. (2-tailed) description. The One-Sample Kolmogorov-Smirnov test indicates that the unstandardized residuals of the sample do not significantly deviate from a normal distribution, as evidenced by the p-value of 0.200. Since this value exceeds 0.05, the null hypothesis is rejected. Thus, it can be concluded that the residuals are normally distributed according to this test.

The Homogeneity Test

The homogeneity test compares the variances between the two groups, which in this case are the pre-test and post-test. The conclusion is based on the significance value: if it is greater than 0.05, the data is considered homogeneous; if it is less than 0.05, the data is considered non-homogeneous. The pre-test and post-test data were analyzed using SPSS version 24.0, and the results are as follows.

Table 5. The Homogeneity Test
Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
3.905	1	54	.053

The test results indicate that the homogeneity value for the pre-test was 0.053, which is greater than 0.05. Therefore, the pre-test and post-test data are homogeneous.

The Paired Sample T Test

To evaluate the impact of the Wordwall application on improving students' vocabulary in recount texts, the researcher employed a paired sample t-test to analyze the pre-test and post-test data. This statistical method determines the effectiveness of an intervention by comparing the average scores before and after its implementation. The findings from the paired sample t-test in this study are presented below.

Table 6. The Paired Sample T Test

		Paired Differences				t	df	Sig. (2-tailed)	
Pair	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
1	PRE_TEST - POST_TEST	13.14286	8.69957	1.64406	- 9.76952	16.51620	7.994	27	.000

The paired sample t-test in the experimental class revealed a significance value of 0.000, less than 0.050. This indicates a significant difference between the pre-test and post-test sessions. The difference is attributed to the implementation of Wordwall for teaching vocabulary related to recount texts at SMPN 1 Gandusari Blitar.

The results indicate that students' performance in learning vocabulary for recount texts improved significantly, with scores rising from a pre-test average of 70.14 to a post-test average of 83.29. The paired sample t-test revealed a Sig. (2-tailed) value of 0.000, which is less than 0.05, demonstrating a significant difference between the pre-test and post-test outcomes. This suggests that the Wordwall application effectively enhanced students' vocabulary achievement at SMPN 01 Gandusari Blitar. These findings are consistent with Ismiyati and Saputri (2020), who reported that Wordwall effectively improves students' English vocabulary mastery. Similarly vein, a study titled "The Influence of Using Wordwall on Students' Vocabulary Mastery at MTs Al-Furqan Dumai" showed that prior to using Wordwall, only

19.99% of students passed the vocabulary test. After the intervention, 83.33% of students passed, highlighting the positive impact of Wordwall on vocabulary acquisition.

Further support comes from Maulani (2019), whose study found significant improvements in students' vocabulary scores using Wordwall and visual aids, with a paired sample test showing a score of -6.457 and a significance level of 0.000. This underscores the effectiveness of Wordwall in enhancing English vocabulary mastery. Wulandhary (2018) also emphasized that Wordwall fosters a positive learning environment and engages students effectively. Wordwall's advantages include serving as a valuable student reference, aiding vocabulary expansion, and enhancing writing quality. According to Cunningham, Wordwall provides visual cues and encourages student interaction, reinforcing its effectiveness as a learning tool (Shaari et al., 2018).

4. Conclusion

According to the findings from the previous chapter, the average vocabulary score for recount texts in class VIII-G was 70.14 before using Wordwall and increased to 83.29 after the treatment. This indicates a significant improvement in students' vocabulary achievement. The paired sample t-test analysis produced a Sig (2-tailed) value of 0.000, below 0.05. This result supports the acceptance of the alternative hypothesis (Ha) and the rejection of the null hypothesis (Ho). Therefore, it can be concluded that the Wordwall application effectively improves eighth-grade students' vocabulary performance in recount texts at SMPN 01 Gandusari.

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